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EXAMINER	
RAO, ANAND SHASHIKANT	
ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 08/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/779,444	ARPA ET AL.	
	Examiner	Art Unit	
	Andy S. Rao	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 May 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's arguments with respect to claims 1-26 as filed on 5/26/05 have been considered but are moot in view of the new ground(s) of rejection based in newly cited portions of the previously applied reference.

2. Claims 1-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Robertson et al. (US 2002/0140698 hereinafter referred to as "Robertson").

3. The Applicant presents one argument contending the application of the Robertson reference against currently amended claims 1-19 and newly added claims 20-26. However, after a careful consideration of the argument presented and a further scrutiny of the Robertson reference, the Examiner must respectfully disagree for the reasons that follow and maintain the applicability of the Robertson reference as the basis for the grounds of rejection that follow.

The Applicant arguments that the cited portions of the Robertson reference fail to "positioning of at least one sensory device in a scene of a 3D site model supported in a computer..." and "...rendering in a computer an image of at least a part of a coverage area of at least one sensory device; and said rendering of said image being derived for a view point in said 3D site model that is different from the positioning of said sensory device..." as recited independent claim 1 (Amendment of 5/26/05: page 9, lines 10-17; page 10, lines 1-18), independent claim 7 (Amendment of 5/26/05: page 10, lines 19-25; page 11, lines 1-11), independent claim 13 (Amendment of 5/26/05: page 11, lines 12-12-23; page 12, lines 1-5), independent claim 17 (Amendment of 5/26/05: page 12, lines 6-15), and newly added independent claim 20 (Amendment of claim 5/26/05: page 12, lines 16-24; page 13, lines 1-10).

However after a careful consideration of the argument presented, the Examiner must respectfully disagree follow. As to the "positioning of at least one sensory device in a scene of a 3D site model supported in a computer...", that limitation met by the previously cited portion of the reference addressing the "...positioning..." of the previously presented claims (Robertson: paragraph [0037]). Additionally, the "...rendering in a computer an image of at least a part of a coverage area of at least one sensory device..." limitation is met by the previously cited portion of the reference addressing the "...rendering in a computer an image of at least a part of a coverage area of at least one sensory device..." of the previously presented claims (Robertson: paragraph [0036]-[0037]). However, the newly added limitation clarifying the "rendering..." limitation wherein "...the rendering of said image being derived for a view point in said 3D site model that is different from the positioning of said sensory device..." is met by a newly cited portion of the Robertson reference. It noted that in the "ephemeral world compression..." processing is stipulated as a navigation technique (Robertson: paragraph [0051]), such that the rendering of an image using this image allows for rendering of a view point in said site model that is different from the positioning of said sensory device (Robertson: paragraph [00052]: "illustrate previously viewable objects [184] and the objects [187] that were previously unviewable because they located to the left of the right of the central axis behind..."). Accordingly, the Examiner maintains that this "ephemeral navigation technique" reads on the rendering limitation as in claims 1-26.

A detailed Office Action follows.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Robertson et al. (US 2002/0140698 hereinafter referred to as "Robertson").

Robertson discloses a method for dynamic sensor placement (Robertson: paragraph [0008], lines 1-5), comprising: positioning at least one sensory device in a scene of a 3D site model supported in a computer (Robertson: paragraph [0037]); and rendering in said computer an image of at least part of a coverage area at said at least one sensory device within the scene of said 3D site model, said coverage area being derived in accordance with sensor parameters associated with said at least one sensory device (Robertson: paragraphs [0036-[007]); and said rendering of said image (Robertson: paragraph [0051]) being derived for a view point in said 3D site model that is different from the positioning of said sensory device (Robertson: paragraph [00052]: "illustrate previously viewable objects [184] and the objects [187] that were previously unviewable because they located to the left of the right of the central axis behind..."), as in claim 1.

Regarding claim 2, Robertson discloses wherein said rending step renders the coverage area covered by said sensor in accordance with said sensor parameters (Robertson: paragraphs [0035-0036]), note that the viewpoint is seen through the camera or virtual body and the camera

parameters can be controlled through a pop-up menu or through the use of a keyboard) with objects in the 3D site model being given a texture (Robertson: paragraph [0054]) that differentiates the coverage area from areas in the scene that are not in said coverage area (Robertson: paragraph [00052]: "illustrate previously viewable objects [184] and the objects [187] that were previously unviewable because they located to the left of the right of the central axis behind..."), as in the claim.

Regarding claim 3, Robertson discloses receiving input from a device representing an adjustment to the least one of the 3D site model, sensory parameters and viewpoint for viewing said at least one sensory device (Robertson: paragraphs [0035-0036], note that the viewpoint is seen through the camera or virtual body and the camera parameters can be controlled through a pop-up menu or through the use of a keyboard), and rendering a subsequent image derived for said view point (Robertson: paragraphs [0036-[007]) of and of at least part of said coverage area if said sensory device based on said adjustment (Robertson: paragraph [0051], lines 1-5) or an values changed thereby (Robertson: paragraph [00052]: "illustrate previously viewable objects [184] and the objects [187] that were previously unviewable because they located to the left of the right of the central axis behind..."), as in the claim.

Regarding claim 4, Robertson discloses wherein said at least one sensory device is associated with sensor parameters that define relative to said 3D site model characterizes modeling a sensor selected from the group consisting of a motion sensor, an ultrasonic sensor, and an infrared sensor (Robertson: figure 2, shows the use of a camera, however, other virtual body object data structures produced by other "non-camera" sensors are used; paragraphs [0037] and [0054]), as in the claim.

Regarding claim 5, Robertson discloses wherein said positioning occurs automatically in accordance with at least one of a minimization of an occluded area, a maximization of the coverage area, and said sensory parameters (Robertson: paragraph [0042]; when an object is selected for orbiting, the object is brought to the forefront of the viewpoint and centered and the sensory parameters can be adjusted in relation to the object alone), as in the claim.

Regarding claim 6, Robertson discloses wherein said rendering further comprises determining whether an occlusion exists with an area covered by said at least one sensory device (Robertson: paragraph [0007], in order to remove occlusions the invention inherently makes the determination that they exist), as in the claim.

Robertson discloses a method for dynamic sensor placement (Robertson: paragraph [0008], lines 1-5), comprising: selecting a 3D site model supported in a computer (Robertson: paragraphs [0036]); selecting a sensor for placement into said 3D site model (Robertson: paragraph [0037]); rendering said sensor within a scene of said 3D site model in accordance with sensor parameters associated with the sensor (Robertson: paragraph [0054]); said rendering being performed by said computer (Robertson: paragraph [0051]) being derived for a view point other than the location of the sensor, and including at least a part of the coverage area for said sensor derived in an accordance with the 3-D site model and the sensor parameters and a portion of the 3D site model that is not in said coverage area (Robertson: paragraph [00052]: "illustrate previously viewable objects [184] and the objects [187] that were previously unviewable because they located to the left of the right of the central axis behind..."), as in claim 7.

Regarding claim 8, Robertson discloses wherein said rending step renders the coverage area covered by said sensor in accordance with said sensor parameters (Robertson: paragraphs

[0035-0036], note that the viewpoint is seen through the camera or virtual body and the camera parameters can be controlled through a pop-up menu or through the use of a keyboard) with a texture (Robertson: paragraph [0054]) that differentiates the coverage area from areas in the scene that are not in said coverage area (Robertson: paragraph [00052]: "illustrate previously viewable objects [184] and the objects [187] that were previously unviewable because they located to the left of the right of the central axis behind..."), as in the claim.

Regarding claim 9, Robertson discloses selecting a viewpoint for viewing said scene at least one sensory device (Robertson: paragraph [0035]) and using said viewpoint as the point of view in rendering said scene (Robertson: paragraphs [0036]-0037]), as in the claim.

Regarding claim 10, Robertson discloses providing a graphical user interface for each of selecting steps (Robertson: paragraphs [0036-[0037]), as in the claim.

Regarding claim 11, Robertson discloses positioning occurs automatically in accordance with at least one of a minimization of an occluded area, a maximization of the coverage area, and a sensory parameter (Robertson: paragraph [0042]; when an object is selected for orbiting, the object is brought to the forefront of the viewpoint and centered and the sensory parameters can be adjusted in relation to the object alone), as in the claim.

Regarding claim 12, Robertson discloses wherein said rendering further comprises determining whether an occlusion exists with an area covered by said at least one sensory device (Robertson: paragraph [0007], in order to remove occlusions the invention inherently makes the determination that they exist), as in the claim.

Robertson discloses a computer readable medium having stored thereon a plurality of instructions (Robertson: paragraph [0060]), the plurality of instructions including instructions

which, when executed by a processor (Robertson: paragraph [0061]), cause the processor to perform the steps of (Robertson: paragraph [0008], lines 1-5): positioning at least one sensory device in a scene of a 3D (Robertson: paragraph [0037]); and rendering dynamically images of said sensory device in the scene of said 3D site model, in accordance with sensor parameters associated with sensor, (Robertson: paragraphs [0036-[007]), wherein said rendering renders an area covered by said sensor in accordance with the sensor parameters (Robertson: paragraph [0051]), wherein the images are from one or more viewpoints none of which are that of the sensor (Robertson: paragraph [00052]: "illustrate previously viewable objects [184] and the objects [187] that were previously unviewable because they located to the left of the right of the central axis behind..."), as in claim 13.

Regarding claim 14, Robertson that the computer-readable medium for selecting a viewpoint for viewing said scene (Robertson: paragraph [0035]) and using said viewpoint as the point of view in rendering said image (Robertson: paragraphs [0036]-0037]), as in the claim.

Regarding claim 15, Robertson that the computer-readable medium has a positioning step automatically positions said at least one sensor in the scene of the 3D model in accordance with at least one of minimization of an occluded area, a maximization of the coverage area (Robertson: paragraph [0042]; when an object is selected for orbiting, the object is brought to the forefront of the viewpoint and centered and the sensory parameters can be adjusted in relation to the object alone), as in the claim.

Regarding claim 16, Robertson discloses a computer-readable medium that has a step for determining whether an occlusion exists with an area covered by said sensor(Robertson:

paragraph [0007], in order to remove occlusions the invention inherently makes the determination that they exist), as in the claim.

Robertson discloses an apparatus for dynamic sensor placement (Robertson: paragraph [0008], lines 1-5), comprising: means for positioning at least one sensory device in a scene of a 3D (Robertson: paragraph [0037]); means for rendering dynamically images of said sensory device in the scene of said 3D site model, in accordance with sensor parameters associated with sensor, (Robertson: paragraphs [0036-[007]), wherein the images are from one or more viewpoints none of which are that of the sensor (Robertson: paragraph [00052]: "illustrate previously viewable objects [184] and the objects [187] that were previously unviewable because they located to the left of the right of the central axis behind..."), as in claim 17.

Regarding claim 18, Robertson discloses means for selecting a viewpoint for viewing said scene at least one of said 3D model, said sensory parameters (Robertson: paragraph [0035]), one of said viewpoints for viewing said at least one sensor (Robertson: paragraphs [0036]-0037]), as in the claim.

Regarding claim 19, Robertson discloses means for determining whether an occlusion exists with an area covered by said at least one sensory device (Robertson: paragraph [0007], in order to remove occlusions the invention inherently makes the determination that they exist), as in the claim.

Robertson discloses a method for (Robertson: paragraph [0008], lines 1-5) for placing a plurality of surveillance cameras in a site (Robertson: paragraph [0062]), said method comprising: providing computer scene data of a 3D site model (Robertson: paragraphs [0036]); providing to said computer position data defining discrete positions (Robertson: paragraph

[0054] for each of a plurality of cameras in said 3D model (Robertson: paragraphs [0036-37]), each camera being associated with data defining a viewing parameters defining coverage thereof (Robertson: paragraph [0051]; rendering (Robertson: paragraph [0037]) an image of the site from a viewpoint based on the 3-D model (Robertson: paragraph [0040]), said image showing at least a part of a coverage area in said 3-D model determined from the position data for at least one camera and the viewing parameters thereof (Robertson: paragraph [0054]); and displaying said image to so as to be used by a viewer (Robertson: paragraph [0054]); said rendering being performed by said computer (Robertson: paragraph [0051]) being derived for a view point other than the location of the sensor, and including at least a part of the coverage area for said sensor derived in an accordance with the 3-D site model and the sensor parameters and a portion of the 3D site model that is not in said coverage area (Robertson: paragraph [00052]: "illustrate previously viewable objects [184] and the objects [187] that were previously unviewable because they located to the left of the right of the central axis behind..."), as in claim 20.

Regarding claim 21, Robertson discloses receiving input from said computer and based thereon changing the position data parameters for least one of said cameras to adjusted position data reflecting an adjusted position of said camera in the 3D site model (Robertson: paragraphs [0035-0036], note that the viewpoint is seen through the camera or virtual body and the camera parameters can be controlled through a pop-up menu or through the use of a keyboard), and rendering a second image of the site from the viewpoint that is based on said 3D model and shows that (Robertson: paragraphs [0036-[007]) at least part of said coverage area in said 3D model determined using the adjusted position data (Robertson: paragraph [0051], lines 1-5) for said camera and the viewing parameters thereof (Robertson: paragraph [00052]: "illustrate

previously viewable objects [184] and the objects [187] that were previously unviewable because they located to the left of the right of the central axis behind..."), and displaying the second image as in the claim (Robertson: paragraph [0054]); said rendering being performed by said computer (Robertson: paragraph [0051]) being derived for a view point other than the location of the sensor, and including at least a part of the coverage area for said sensor derived in an accordance with the 3-D site model and the sensor parameters and a portion of the 3D site model that is not in said coverage area (Robertson: paragraph [00052]: "illustrate previously viewable objects [184] and the objects [187] that were previously unviewable because they located to the left of the right of the central axis behind..."), as in claim 21.

Regarding claim 22, Robertson discloses receiving input to said computer indicative of an adjustment in the viewpoint to a second viewpoint (Robertson: paragraphs [0035-0036] in the viewpoint to said second viewpoint note that the viewpoint is seen through the camera or virtual body and the camera parameters can be controlled through a pop-up menu or through the use of a keyboard), and rendering a second image of the site from the second viewpoint based on said 3D model and showing at least a part of the coverage area (Robertson: paragraphs [0036-[007]) at least part of said coverage area in said 3D model determined using the adjusted position data (Robertson: paragraph [0051], lines 1-5) for said camera and the viewing parameters thereof (Robertson: paragraph [00052]: "illustrate previously viewable objects [184] and the objects [187] that were previously unviewable because they located to the left of the right of the central axis behind..."), as in claim 22.

Regarding claim 23-24 Robertson wherein in said rendering the coverage area is marked in the image with a texture (Robertson: paragraph [0054]) applied to surfaces in the 3D model in

said coverage area (Robertson: paragraph [00052]: "illustrate previously viewable objects [184] and the objects [187] that were previously unviewable because they located to the left of the right of the central axis behind..."), as in the claims.

Regarding claim 25, Robertson discloses defining a position of a sensor in said 3D model, and said senor parameters indicative of coverage thereof, said image being to show at least part of a sensor coverage defined by said sensor position and said sensor parameters (Robertson: paragraph [0042]; when an object is selected for orbiting, the object is brought to the forefront of the viewpoint and centered and the sensory parameters can be adjusted in relation to the object alone), as in the claim.

Regarding claim 26, Robertson discloses includes ray tracings between the viewpoint and a point on the surface in the 3D model and ray tracing between the point on the surface in the 3D model and each of the cameras (Robertson: paragraph [0052]), said point being displaying as in the coverage area when the ray tracings do not encounter any occlusion in the 3D model between the said point on said surface and at least one of the cameras, and being displayed as outside the coverage when there is an occlusion between the point and all of said cameras (Robertson: paragraph [0007], in order to remove occlusions the invention inherently makes the determination that they exist), as in the claim.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ritchey discloses panoramic image based virtual reality telepresence system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad S. Dastouri can be reached on (571)-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Andy S. Rao
Primary Examiner
Art Unit 2613

asr
August 8, 2005

ANDY RAO
PRIMARY EXAMINER